

ATTORNEY DOCKET NO.: 21101.0021U2
INTERNATIONAL APPLICATION NO. PCT/US03/17506

This listing of claims will replace all prior versions and listings of claims in the application:

1. (cancelled)

2. (original) A variant antithrombin III, comprising a substitution at position P3, wherein the substitution at P3 is a D, E, H, K, L, P, Q, R, W, or Y.

3. (original) A variant antithrombin III, comprising a substitution at position P4, wherein the substitution at P4 is a L, N, Q, or V.

4 – 9 (cancelled)

10. (original) A variant antithrombin III, comprising one substitution at P5, wherein the substitution at P5 is D, H, N, Q, R, S, T, V, W, or Y.

11. (original) A variant antithrombin III, comprising one substitution at P7, wherein the substitution at P7 is F, H, L, S, T, or V.

12 - 28 (cancelled)

29. (currently amended) The variant ATIII of ~~claims 1-20~~ claim 2, wherein the variant ATIII has a combined activity greater than or equal to plasma ATIII in a coupled assay.

30. (original) The variant ATIII of claim 29, wherein the ATIII retains base thrombin inhibition activity of at least 5%.

31 - 32 (cancelled)

33. (original) The variant ATIII of claim 29, wherein the the variant ATIII produce a predicted half life of thrombin at 60 minutes after a bolus administration to a subject that is greater than or equal to .9 the half life following a plasma ATIII administration.

34 - 38 (cancelled)

39. (original) The variant antithrombin III of claim 29, wherein the variant antithrombin III has an increased protease resistance greater than or equal to the protease resistance of plasma ATIII.

40. (original) The variant antithrombin III of claim 29, wherein the variant antithrombin III has an increased human neutrophil elastase resistance greater than or equal to the protease resistance of plasma ATIII.

41. (original) The variant antithrombin III of claim 29, wherein the variant antithrombin III

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has an increased cathepsin G resistance greater than or equal to the protease resistance of plasma ATIII.

42. (cancelled)

43. (currently amended) The variant ATIII of ~~claims 1-20~~ claim 2, wherein the variant ATIII retains increased protease resistance and retains observable anti-thrombin activity.

44 - 50 (cancelled)

51. (currently amended) The variant ATIII of ~~claims 1-20~~ claim 2, wherein the variant ATIII retains increased protease resistance and retains observable anti factor fXa activity.

52 - 60 (cancelled)

61. (currently amended) A method of inhibiting septic disseminated intravascular coagulation by administering the ATIII of ~~claims 1-20~~ claim 2 to a subject having septic disseminated intravascular coagulation.

62. (currently amended) A method of reducing sepsis, comprising administering the ATIII of ~~claims 1-20~~ claim 2 to a subject having sepsis.

63. (currently amended) A method of inhibiting sepsis induced shock comprising administering the ATIII of ~~claims 1-20~~ claim 2 to a subject.

64. (cancelled)

65. (currently amended) A method of making the variant ATIII of ~~claims 1-20~~ claim 2, comprising linking in an operative way a nucleic acid molecule encoding a protein set forth in SEQ ID NO:77 wherein the nucleic acid sequence comprises a sequence that hybridizes under stringent hybridization conditions to a sequence set forth SEQ ID NO:79, or a degenerate variant thereof, and a sequence controlling the expression of the nucleic acid.

66. (currently amended) A cell comprising the variant ATIII of ~~claims 1-20~~ claim 2.

67. (currently amended) A non-human animal comprising the variant ATIII of ~~claims 1-20~~ claim 2.

68 - 70 (cancelled)

71. (currently amended) A cell produced by the process of transforming the cell with any of the disclosed nucleic acids of ~~claims 64 or 65~~ claim 65.

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72. (currently amended) A cell produced by the process of administering the variant ATIII of ~~claims 1-20~~ claim 2.

73. (currently amended) A non-human animal produced by administering any of the variant ATIIIs of ~~claims 1-20~~ claim 2.

74. (original) A non-human animal produced by administering the cell of claim 73.